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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,223	07/29/2003	Om P. Agrawal	M-15169US	5335

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EXAMINER	
COX, CASSANDRA F	

ART UNIT	PAPER NUMBER
2816	

DATE MAILED: 06/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/629,223	AGRAWAL ET AL.	
	Examiner	Art Unit	
	Cassandra Cox	2816	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *28 March 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *13-16* is/are allowed.

6)☒ Claim(s) *1-4,9-11,17-21 and 23-29* is/are rejected.

7)☒ Claim(s) *5-8,12,22 and 30* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 December 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's arguments filed 03/28/05 have been fully considered but they are not persuasive. The rejection is repeated below. In addition, claims 4, 19, 21 and 24 have also been rejected based on the prior art.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the first circuit comprising three buffers must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-4, 9-11, 17-21, 24, and 26-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over North U.S. Patent No. (6,622,208) in view of Welland et al. (U.S. Patent No 6,741,846).

In reference to claim 1, North discloses in Figure 9 a clock generator comprising: a first circuit (906a) adapted to programmably receive an input signal, and modify a frequency of the input signal by a first programmable amount (M1) to generate a first input signal; a feedback loop circuit (/N1) adapted to receive a feedback signal and modify a frequency of the feedback signal by a second programmable amount (N1) to generate a second input signal; a phase-locked loop circuit (121a) adapted to receive the first input signal and the second input signal and provide a first output signal (VCOCLK1); and a second circuit (903a-c) adapted to receive the first output signal to generate a plurality of second output signals having programmable frequencies, wherein the first and second programmable amount and the programmable frequencies are determined by data stored in electrically erasable memory (122, see figure 1).

North does not say that the input signals have a possible range of voltage levels and signal types. Welland discloses in Figure 16 a first circuit (204) adapted to programmably receive an input signal, having a possible range of voltage levels and signal types (see column 26, lines 56-58). It would have been obvious to one skilled in the art at the time of the invention that the first circuit of North could be replaced with the first circuit of Welland, capable of receiving an input signal having a range of signal types, for the advantage of being able to use the circuit over a wide range of applications (see column 26, lines 56-58). The same applies to claims 17-18, 21 (wherein the first circuit is equivalent to the input circuit and the output circuit is equivalent to the second circuit), 24, and 26-29.

In reference to claim 2, North discloses in column 12, lines 9-10 input/output boundary scan circuits adapted to provide JTAG test support for the clock generator. The same applies to claims 3, and 20.

In reference to claim 4, North discloses in column 4, lines 5-10 that the clock generator is in-system programmable. The same applies to claim 19 (see also lines 11-16 of the same column).

In reference to claim 9, the signal types in North may comprise single-ended and differential signals.

In reference to claim 10, North discloses in Figure 9 a plurality of output circuits (904 and the circuit receiving UARTCLK1) and programmably provide a plurality of third output signals having a range of selectable voltage levels, signal types, and output impedance. The same applies to claim 11.

5. Claims 21, 23, 25-26, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moore U.S. Patent No. (6,690,224) in view of Welland et al. (U.S. Patent No 6,741,846).

In reference to claim 21, Moore discloses in Figure 3 a clock generator comprising: a an input circuit (receiving signal REFCLK(N)) programmable to receive input signals of various signal types and voltage levels and to generate in response an input signal to a phase-locked loop (200); a phase-locked loop circuit (200) adapted to receive the PLL input signal and to generate in response a PLL output signal (214a-214n, FB); and an output circuit (208, 210, 212) adapted to receive the PLL output signal and be programmable to generate in response clock signals of various signal types and voltage levels. Moore does not say that the input signals have a possible range of voltage levels and signal types. Welland discloses in Figure 16 an input circuit (204) adapted to programmably receive an input signal, having a possible range of voltage levels and signal types (see column 26, lines 56-58). It would have been obvious to one skilled in the art at the time of the invention that the input circuit of Moore could be replaced with the input circuit of Welland, capable of receiving an input signal having a range of signal types, for the advantage of being able to use the circuit over a wide range of applications (see column 26, lines 56-58). The same applies to claims 26 and 28.

In reference to claim 23, Moore discloses in Figure 3 a clock divider circuit (206a-206n) coupled between the phase-locked loop and the output circuit and programmable to modify a frequency of the PLL output signal.

In reference to claim 25, Moore discloses in Figure 3 input/output boundary scan circuits (211) adapted to provide JTAG test support for the clock generator.

Allowable Subject Matter

6. Claims 13-16 are allowed.

7. Claims 5-8, 12, 22, and 30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: Claims 5 and 30 would be allowable because the closest prior art of record fails to disclose a circuit as shown in Figure 2 wherein the clock generator is in-system programmable by supporting IEEE 1532 standards in combination with the rest of the limitations of the base claims and any intervening claims. Claim 6 would be allowable because the closest prior art of record fails to disclose a circuit as shown in Figure 2 wherein the feedback signal is selected from an internal feedback signal (INTERNAL FEEDBACK) and an external feedback signal (FBIN) in combination with the rest of the limitations of the base claims and any intervening claims. Claim 7 would be allowable because the closest prior art of record fails to disclose a circuit as shown in Figure 2 wherein the phase lock loop circuit generates a lock signal (LOCK) when the phase and frequency are locked in combination with the rest of the limitations of the base claims and any intervening claims. Claim 8 would be allowable because the closest prior art of record fails to disclose a circuit wherein the first circuit comprises three buffers adapted to programmably accept single and differential signals in combination with the rest of

the limitations of the base claims and any intervening claims. Claim 12 would be allowable because the closest prior art of record fails to disclose a circuit as shown in Figure 2 wherein the clock generator further comprises a plurality of multiplexers (210, 212, 214, 222) that are controlled to determine the frequency of the first and second input signal and the second output signals in combination with the rest of the limitations of the base claims and any intervening claims. Claim 22 would be allowable because the closest prior art of record fails to disclose a circuit as shown in Figure 2 further including a clock divider (202) coupled between the input circuit (208, 210) and the phase locked loop (206) in combination with the rest of the limitations of the base claims and any intervening claims.

9. The following is an examiner's statement of reasons for allowance: Claims 13-16 are allowed because the closest prior art of record fails to disclose a circuit as shown in Figure 2 wherein the circuit comprises means for selecting from a plurality of input signals (210); means for selecting from a plurality of feedback signals (212, 214) and means for providing configurability and in-system programmability (110, see Figure 1) in combination with the rest of the limitations of the base claims and any intervening claims.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

10. Applicant's arguments filed 03/28/05 have been fully considered but they are not persuasive. Applicant's argument that Welland does not disclose "a first circuit adapted to programmably receive an input signal, having a possible range of voltage levels and signal types" is not persuasive because it is the examiner's belief that the "wide range of applications" referred to by Welland in column 26, lines 56-60, may include applications requiring signals of various voltage levels and various signal types as called for in applicant's claims. Therefore, the rejection is maintained. In addition claims 4, 19, 21, and 24 have also been rejected based on North in view of Welland cited above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cassandra Cox whose telephone number is 571-272-1741. The examiner can normally be reached on Monday-Thursday from 7:00 AM to 4:30 PM and on alternate Fridays from 7:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CC

June 12, 2005

TIMOTHY P. CALLAHAN
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